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A New Species of Parabathynellidae (Syncarida) from Tasmania^{1,2)}

By

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(Communicated by Yoshinori IMAIZUMI)

It is well known that Tasmania is inhabited by remarkable epigeal species of syncarid crustaceans. Subterranean species are, however, very poorly known, only the record having been made by SCHMINKE (1973, p. 390), who described *Atopobathynella hospitalis* from an interstitial material obtained by himself on the bank of the St. Patricks River at the northeastern part of the island.

In December 1974 and February 1977, the present writer had opportunities to visit Tasmania for collecting freshwater crustaceans. During these trips, he exerted every possible effort to obtain bathynellaceans in various places, especially at the eastern and northern coastal areas. Unfortunately, he was not successful in fulfilling his expectation, but was able to get a short series of specimens of a parabathynellid in Exit Cave of the Ida Bay Caves near the southeastern corner of the island. After a close examination, it was proved that the parabathynellid is a new species most probably belonging to the genus *Notobathynella*. It will be described in the present paper under the name of *N. tasmaniana*.

Before going further, the writer wishes to express his hearty thanks to Professor Taiji IMAMURA and Dr. Shun-Ichi UÉNO, under whose leadership the two expeditions to Tasmania were carried out. Deep gratitude is also due to Professor Albert GOEDE, Mr. R. K. SKINNER and Dr. Masatsune TAKEDA for their kind support and warm friendship extended to the writer in the field works. Dr. UÉNO kindly read the original manuscript and gave him valuable advice and criticism.

Notobathynella tasmaniana sp. n.

(Figs. 1–15)

Relatively small within the genus; thorax as long as abdomen, the first two thoracic somites markedly shorter than the succeeding ones; colour white and translucent when alive. Head a little shorter than the first three thoracic somites together,

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and three-fourths as wide as long.

Antennules (Fig. 2) of 7 joints, 1.3 times as long as head; peduncle a little longer than the remaining joints together, last joint of peduncle with a minute endopodite bearing 3 setae. Antennae (Fig. 3) of 4 joints, and a little shorter than half the length of antennules. Labrum (Fig. 4) large and broad, convex on the dorsal surface and concave below along the front margin, frontal brim with 16 small teeth. Mandibles (Fig. 5) rather slender, with 5 blunt teeth; molar plate with a row of 9 spines on the apical margin and several hairs on the posterior side; mandibular palp long,

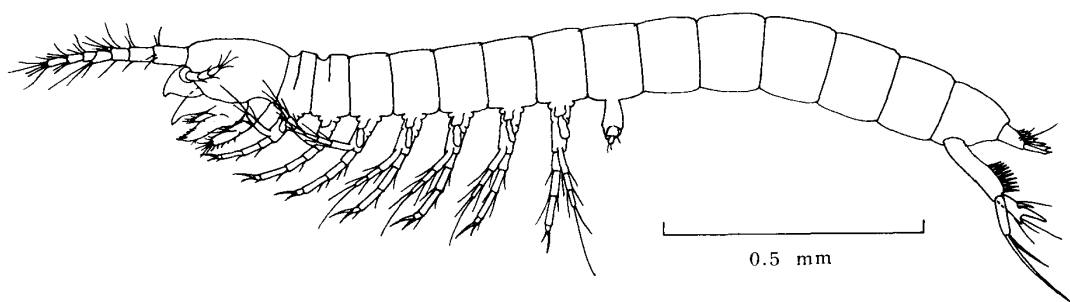


Fig. 1. *Notobathynella tasmaniana* sp. n., ♂, from Exit Cave of the Ida Bay Caves, SE Tasmania.

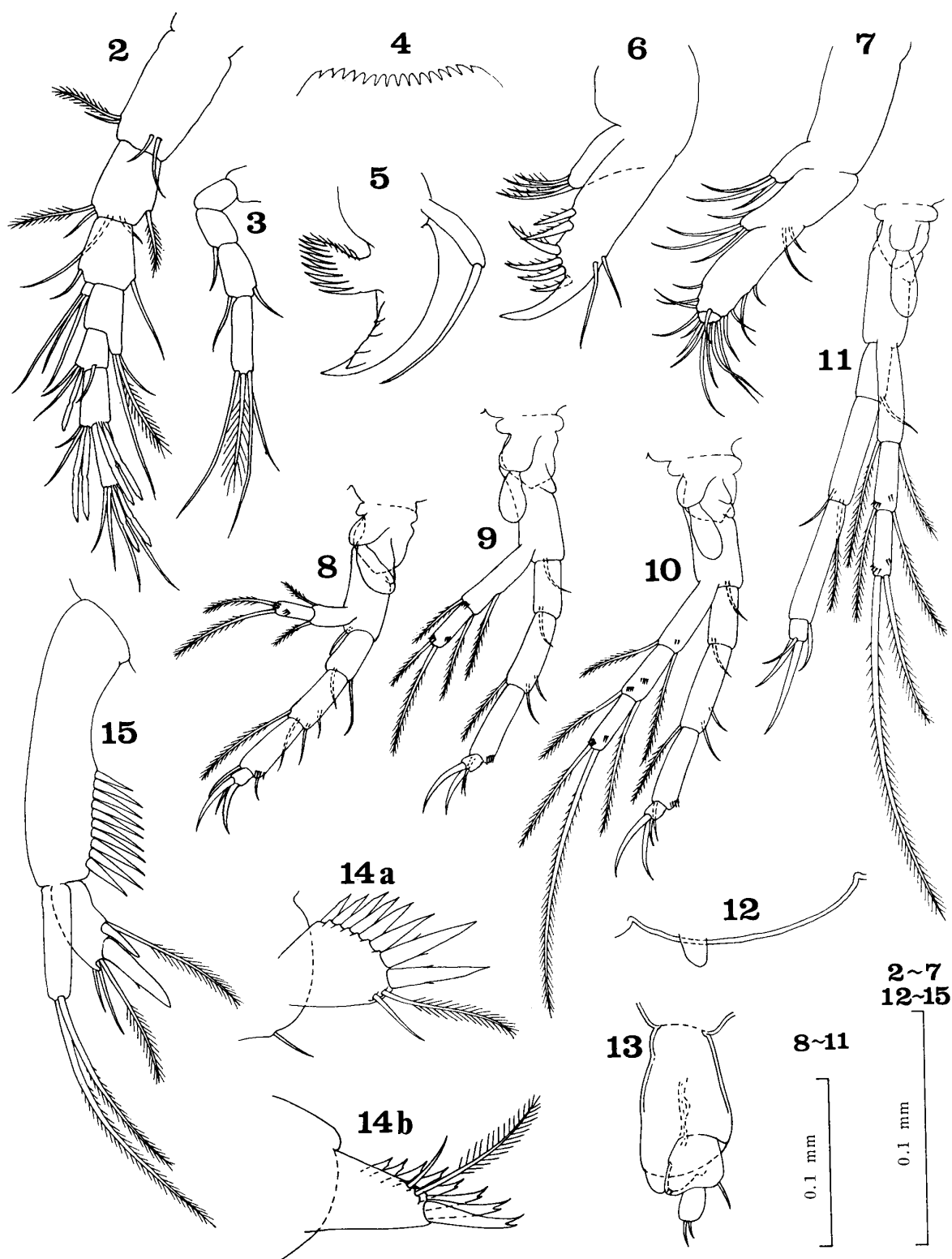
terminating in a long seta about twice as long as the palp itself. Maxillulae (Fig. 6) with two endites; proximal endite armed with 4 ciliated setae at apex; distal endite with a large spine at apex, 6 ciliated spines on the apical inner margin, and 2 setae on the apical outer margin. Maxillae (Fig. 7) slender, with 3 endites; proximal endite with 3 setae at apex, the second with 6 setae and the third with 9 setae; last joint very small, with 7–9 setae.

Pereiopods 1–7 large; each coxopodite with an epipodite; composition of exopodite joints 2: 2: 3: 3: 3: 3: 3, each last joint with 2 long ciliated setae at apex, other joints with a pair of ciliated setae, inner and outer, at apex; endopodites of 4 joints, the number of setae on each joint being as shown in the following table.

Table 1. Number of setae or spines on the endopodites of pereiopods 1–7.

	Ischiopodite		Carpopodite		Propodite		Dactylopodite	
	inner	outer	inner	outer	inner	outer	spines	seta
P. 1	1	1	3	1	1	1	2	1
P. 2–3	0	1	2	1	0	1	2	1
P. 4–7	0	1	1	1	0	1	2	1

Figs. 2–15. *Notobathynella tasmaniana* sp. n., from Exit Cave of the Ida Bay Caves, SE Tasmania. — 2. Antennule. — 3. Antenna. — 4. Labrum. — 5. Mandible. — 6. Maxillula. — 7. Maxilla. — 8. Pereiopod 1. — 9. Pereiopod 2. — 10. Pereiopod 3. — 11. Pereiopod 7. — 12. Pereiopod 8 ♀. — 13. Pereiopod 8 ♂. — 14. Telson (a, dorsal view; b, lateral view). — 15. Uropod.



Pereiopods 8 in ♂ (Fig. 13) a little shorter than peduncle of P. 7; exopodite with 2 setae of different length at apex; endopodite fixed to basipodite, with 2 minute setae at apex. Pereiopods 8 in ♀ (Fig. 12) perceptible only as a very small rudimentary process.

Uropods (Fig. 15): peduncle long, on its distal inner margin armed with a row of 10 spines; endopodite broad, a little shorter than exopodite, bearing at apex 2 claw-like spines of different length and also with 2 ciliated and 2 simple setae; exopodite slender, a little less than a half as long as peduncle, terminating in 2 long setae, one of which is about three-fourths as long as the other. Telson (Fig. 14) with 2 long spines at apex and a row of 6 spines on the inner margin, which successively increase in length towards apex; adding to these, there are 2 dorsal setae at the apical outer corner.

Length of body: 1.60 mm in ♂ (holotype), 1.78 mm in ♀ (allotype), 1.11–1.39 mm in the paratypes.

Type-series. Holotype: ♂, allotype: ♀, paratypes: 2 ♂, 1 juv. (Exit Cave; W.T. 8.8°C, pH 7.6; 21 Dec. 1974, collected by S. UÉNO, Y. MORIMOTO and A. GOEDE). The holotype is to be deposited in the Australian Museum, Sydney. Other type materials are deposited in the National Science Museum (Nat. Hist.), Tokyo.

Type-locality. Exit Cave of the Ida Bay Caves, Southeast Tasmania.

Notes. According to SCHMINKE's key to the genera of Parabathynellidae (1973, pp. 398–399), this new species appears to fall in his genus *Cteniobathynella*. This misleading is caused by the peculiar mode of spines on the uropodal peduncle in *N. tasmaniana*, in which the distalmost spine is not particularly longer nor thicker than the remaining ones. All the other important characters of the present species agree well with *Notobathynella*, and the writer decided to disregard the uropodal peculiarity and to place it in the genus *Notobathynella*. This new species also differs from the four known species of the genus in 1) molar plate of mandible with 9 spines, 2) peduncle of uropod with a row of 10 spines, and 3) telson with 8 spines.

The type materials of the present species were obtained by filtering interstitial water on the sandy bank of the underground stream that flows through Exit Cave. Many samples of interstitial animals were taken along this stream, but the crustacean was found only at a spot near the innermost of the cave.

Reference

- SCHMINKE, H. K., 1973. Evolution, System und Verbreitungsgeschichte der Familie Parabathynellidae (Bathynellacea, Malacostraca). *Akad. Wissenschaft. Liter., Math.-naturw. Kl.; Microfauna Meeresboden*, (24): 217–408.